



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/693,025	10/20/2000	Bruce E. Randall	99P7935US01 (1505-0093)	8049

7590 09/24/2004
Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

EXAMINER

CHERRY, STEPHEN J

ART UNIT	PAPER NUMBER
----------	--------------

2863

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/693,025

Applicant(s)

RANDALL, BRUCE E.

Examiner

Stephen J. Cherry

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 55-59 is/are allowed.
- 6) ☒ Claim(s) 37-44, 50-54 and 60 is/are rejected.
- 7) ☒ Claim(s) 45-49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

In view of applicants arguments presented on 9-7-2004, and the cancellation of claims 1-36, the restriction requirement made in the Office action mailed on 6-1-2002 is hereby withdrawn. Claims 37-40 will be rejoined with this application; thus, claims 37-59 will be examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37-44, 50, 52-54, and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,619,142 to Schweer et al.

Claim 37 recites, as disclosed by Schweer:

Claim 37 . An arrangement for use in an electricity meter, the electricity meter operably coupled through an external transformer to measure electricity consumption on a power line, the arrangement operable to compensate for measurement errors, the arrangement comprising:

a) a source of digital measurement signals comprising an internal sensor

circuit ('142, 66) and an analog-to-digital conversion circuit ('142, 62), the source of digital signal measurement signals operably coupled to receive power consumption signals from the external transformer ('142, fig. 8, 10 coupled to 54));

b) a memory storing data representative of at least one error rating for the external transformer ('142, 80);

c) a processing circuit operably coupled to the source of digital measurement signals to receive digital measurement signals therefrom ('142, fig. 8, 70 and 72 coupled to 62); the processing circuit operable to obtain at least one electricity consumption measurement value corresponding to at least a part of the digital measurement signals ('142, col. 6, line 32, power consumed), and adjust the at least one electricity consumption measurement value using at least a portion of the stored data ('142, col. 6, line 62).

Claim 38 recites, as disclosed by Schweer:

Claim 38 The arrangement of claim 37 wherein the at least one electricity consumption measurement value comprises a calculated energy consumption value ('142, col. 6, line 32, power consumed).

Claim 39 recites, as disclosed by Schweer:

Claim 39 The arrangement of claim 37 wherein the at least one electricity consumption measurement value comprises at least one of a sampled current value or a sampled voltage value ('142, col. 7, line 57).

Claim 40 recites, as disclosed by Schweer:

Claim 40 The arrangement of claim 37, wherein the processing circuit is further operable to adjust the at least one electricity consumption measurement value using an internal calibration value, the internal calibration value associated with the internal sensor circuit ('142, col. 6, line 62).

Claim 41 recites, as disclosed by Schweer:

Claim 41 . An apparatus for use in an electricity meter, the electricity meter operably coupled through an external transformer ('142, 60 and 10) to measure electricity consumption on a power line; the apparatus operable to compensate for measurement errors of an external transformer, the apparatus comprising:

- a) a memory storing data representative of at least one error rating for the external transformer ('142, factor memory, 80, contains information for transformers 10);
- b) a processing circuit operable to obtain at least one electricity consumption measurement value ('142, fig. 8, 70 and 72, calculate power at col. 6, line 32), the electricity consumption measurement value representative of a waveform sample ('142, col. 7, line 40), the waveform sample derived from a current waveform or a voltage waveform, and adjust at least one electricity consumption measurement value using at least a portion of the stored data ('142, col. 6, line 62).

Claim 42 recites, as disclosed by Schweer:

Claim 42 . The apparatus of claim 41 wherein the waveform sample is derived from a current waveform ('142, waveform of fig 8b derived from current detected by 10), and wherein the processing circuit is further operable to: obtain at least one error rating comprising a ratio error rating for the external transformer ('142, col. 7, line 1, "slope"); adjust the at least one electricity consumption measurement value using the stored data representative of the ratio error rating ('142, col. 9, line 37).

Claim 43 recites, as disclosed by Schweer:

Claim 43 . The apparatus of claim 41 wherein the processing circuit is further operable to: obtain at least one error rating comprising a phase error rating for the external transformer; and adjust at least one electricity consumption measurement value using the stored data representative of the phase error ('142, col. 9, line 55).

Claim 44 recites, as disclosed by Schweer:

Claim 44 . The apparatus of claim 41 wherein the processing circuit is further operable to adjust the at least one electricity consumption measurement value by multiplying either the at least one electricity consumption measurement value or a phase shifted electricity compensation measurement value by a dynamic compensation factor.

Claim 50 recites, as disclosed by Schweer:

Claim 50 . The apparatus of claim 41 wherein the processing circuit includes a digital signal processor ('142, 70 and 72).

Claim 52 recites, as disclosed by Schweer:

Claim 52 . The apparatus of claim 41 further comprising a source of digital measurement signals operably coupled to receive energy consumption signals from the external transformer, the source of digital measurement signals operable to generate a plurality of waveform samples including the waveform sample from the received energy consumption signals ('142, fig. 8b, and col. 7, line 59).

Claim 53 recites, as disclosed by Schweer:

Claim 53 . The apparatus of. claim 52 wherein the source of digital measurement signals includes an analog-to-digital converter ('142, 62).

Claim 54 recites, as disclosed by Schweer:

Claim 54 . The apparatus of claim 53 further comprising an internal sensor circuit operably coupled to receive the energy consumption signals from the external transformer ('142, 66 coupled to 60), the internal sensor circuit operably connected to the analog-to-digital converter ('142, 66 coupled to 62).

Claim 60 recites, as disclosed by Schweer:

Claim 60 . The apparatus of claim 54, wherein the processing circuit is further operable to adjust the at least one electricity consumption measurement value using an internal calibration value ('142, col. 9, line

56), the internal calibration value associated with the internal sensor circuit ('142, calibration slope and offset use initiated by output of sensor circuit 66).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,619,142 to Schweer et al in view of Horowitz and Hill, "The Art of Electronics".

The claim recites, as disclosed by Schweer:

An apparatus for use in an electricity meter, the electricity meter operably coupled through an external transformer ('142, 60 and 10) to measure electricity consumption on

a power line; the apparatus operable to compensate for measurement errors of an external transformer, the apparatus comprising:

a) a memory storing data representative of at least one error rating for the external transformer ('142, factor memory, 80, contains information for transformers 10);

b) a processing circuit operable to obtain at least one electricity consumption measurement value ('142, fig. 8, 70 and 72, calculate power

Art Unit: 2863

at col. 6, line 32), the electricity consumption measurement value representative of a waveform sample ('142, col. 7, line 40), the waveform sample derived from a current waveform or a voltage waveform, and adjust at least one electricity consumption measurement value using at least a portion of the stored data ('142, col. 6, line 62).

Schweer does not disclose the use of an EEPROM.

The claim further recites, as disclosed by Horowitz and Hill:

wherein the memory includes an EEPROM (Horowitz and Hill, "The Art of Electronics", p. 502).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an EEPROM in the memory unit of Schweer to allow the data to be retained while power is off and also allow the information to be changed (see Horowitz and Hill, p. 502).

Response to Arguments

Applicant's arguments filed 9-7-2004 have been fully considered but they are not persuasive. The states that Schweer does not correct sampled data; however, this is shown at column 9, line 15 to column 10, line 15.

Allowable Subject Matter

Claims 45-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 55-59 are allowed.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Cherry whose telephone number is (571) 272-2272. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SJC


John Barlow
Supervisory Patent Examiner
Technology Center 2800